WHAT IS CLAIMED IS:

1. A laser irradiation stage comprising a surface on which an object to be irradiated by a beam is placed,

wherein the surface provides cylindrical shape curvature to the object to be irradiated by the beam.

2. A laser irradiation stage comprising a surface on which an object to be irradiated by a beam is placed,

wherein the surface provides curvature to the object to be irradiated by the beam,

wherein a distance between the center of radius of the curvature and a laser oscillator is longer than a distance between the center of radius of the curvature and the object to be irradiated by the beam.

3. A laser irradiation stage comprising a surface on which an object to be irradiated by a beam is placed,

wherein the surface provides concave cylindrical shape curvature to the object to be irradiated by the beam.

4. A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a cylindrical shape curvature in a direction parallel to the first direction, and

the third means comprises a first surface on which the object to be irradiated the laser beam expanded in the first direction and condensed in the second direction is placed,

the first surface having the cylindrical shape curvature in the direction parallel to the first direction.

5. A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a curvature in a direction parallel to the first direction,

the third means comprises a first surface on which the object to be irradiated the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the curvature in the direction parallel to the first direction, and

a distance between the center of radius of the curvature and the laser oscillator is longer than a distance between the center of radius of the curvature and the object to be irradiated by the beam.

6. A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a concave cylindrical shape curvature in a direction parallel to the first direction, and

the third means comprises a first surface on which the object to be irradiated the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the concave cylindrical shape curvature in the direction parallel to the first direction.

7. A laser irradiation apparatus according to claim 4, wherein the first means contains a cylindrical lens array or a cylindrical lens.

8. A laser irradiation apparatus according to claim 5, wherein the first means contains a cylindrical lens array or a cylindrical lens.

9. A laser irradiation apparatus according to claim 6, wherein the first means contains a cylindrical lens array or a cylindrical lens.

10. A laser irradiation apparatus according to claim 4, wherein the second means contains a cylindrical lens array or a cylindrical lens.

11. A laser irradiation apparatus according to claim 5, wherein the second means contains a cylindrical lens array or a cylindrical lens.

12. A laser irradiation apparatus according to claim 6, wherein the second means contains a cylindrical lens array or a cylindrical lens.

13. A laser irradiation apparatus according to claim 4, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

14. A laser irradiation apparatus according to claim 5, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

15. A laser irradiation apparatus according to claim 6, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

16. A method of manufacturing a semiconductor device, comprising:

expanding a laser beam emitted from a laser oscillator in a first direction;

condensing the laser beam in a second direction that is orthogonal to the first direction; and

annealing a semiconductor film placed on a surface by irradiating the laser beam onto the semiconductor film while moving relative to the semiconductor film in the second direction;

wherein:

the semiconductor film has a cylindrical curvature in a direction parallel to the first direction, and

the surface has the cylindrical curvature in the direction parallel to the first direction.

17. A method of manufacturing a semiconductor device, comprising:

expanding a laser beam emitted from a laser oscillator in a first direction;

condensing the laser beam in a second direction that is orthogonal to the first direction; and

annealing a semiconductor film placed on a surface by irradiating the laser beam onto the semiconductor film while moving relative to the semiconductor film in the second direction;

wherein:

the semiconductor film has a curvature in a direction parallel to the first direction,

the surface has the curvature in the direction parallel to the first direction, and

a distance between the center of radius of the curvature and the laser oscillator is longer than a distance between the center of radius of the curvature and the object to be irradiated by the beam.

18. A method of manufacturing a semiconductor device, comprising:

expanding a laser beam emitted from a laser oscillator in a first direction;

condensing the laser beam in a second direction that is orthogonal to the first direction; and

annealing a semiconductor film placed on a surface by irradiating the laser beam onto the semiconductor film while moving relative to the semiconductor film in the second direction;

wherein:

the semiconductor film has a concave cylindrical curvature in a direction parallel to the first direction, and

the surface has the concave cylindrical curvature in the direction parallel to the first direction.

19. A method of manufacturing a semiconductor device according to claim 16, wherein the energy distribution of the laser beam is made uniform in the first direction while expanding the laser beam.

20. A method of manufacturing a semiconductor device according to claim 17, wherein the energy distribution of the laser beam is made uniform in the first direction while expanding the laser beam.

21. A method of manufacturing a semiconductor device according to claim 18, wherein the energy distribution of the laser beam is made uniform in the first direction while expanding the laser beam.

22. A method of manufacturing a semiconductor device according to claim 16, wherein the energy distribution of the laser beam is made uniform in the second direction while condensing the laser beam.

23. A method of manufacturing a semiconductor device according to claim 17, wherein the energy distribution of the laser beam is made uniform in the second direction while condensing the laser beam.

24. A method of manufacturing a semiconductor device according to claim 18, wherein the energy distribution of the laser beam is made uniform in the second direction while condensing the laser beam.

25. A method of manufacturing a semiconductor device according to claim 16, wherein:

the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

26. A method of manufacturing a semiconductor device according to claim 17, wherein:

the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

27. A method of manufacturing a semiconductor device according to claim 18, wherein:

the laser oscillator is an excimer laser, a YAG laser, a YVO_4 laser, a YLF laser, a $YAlO_3$ laser, or a glass laser.

28. A method of manufacturing a semiconductor device according to claim 16, wherein the semiconductor device is a device selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD player, a CD player, a front type projector, a rear type projector, a portable telephone and a portable book.

29. A method of manufacturing a semiconductor device according to claim 17, wherein the semiconductor device is a device selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD player, a CD player, a front type projector, a rear type projector, a portable telephone and a portable book.

30. A method of manufacturing a semiconductor device according to claim 18, wherein the semiconductor device is a device selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD player, a CD player, a front type projector, a rear type projector, a portable telephone and a portable book.